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Alvin J. Riddles  
Candlewood Isle  
Box 34  
New Fairfield, CT 06812

EXAMINER

EVANISKO, LESLIE J

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/037,251

Applicant(s)

HOUGHAM ET AL.

Examiner

Leslie J. Evanisko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-10 in Paper No. 6 is acknowledged.
2. Claims 11-14 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made ~~without~~ traverse in Paper No. 6.

***Specification***

3. It appears that applicant is using a trademark "Dow Corning Sylgard" in this application (page 5 of specification). If this term is a trademark, it should be capitalized (in all caps) wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP

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§ 608.01(o). Correction of the following is required: The reference to DuPont Sylgard siloxane 184 and 186 in claims 6 and 10 is not properly supported by the specification. In particular, it is noted that Dow Corning Sylgard 184 is mentioned on page 5 of the specification, but it is not clear whether that material is the same as the DuPont Sylgard siloxane 184 set forth in the claims. Furthermore, it appears that the specification does not mention DuPont Sylgard siloxane 186 at all.

#### *Claim Objections*

5. Claim 5 is objected to because of the following informalities:

With respect to claim 5, it is suggested that this claim be amended to be dependent upon claim 3, since the wettability enhancement bulk property imparting region is recited in claim 3 and not claim 2 as recited.

Appropriate correction and/or clarification is required.

#### *Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the language of claim 1 and 7 render the claims unclear in scope and indefinite for

several reasons. Firstly, the terms “wettability enhancement,” “adhesion enhancement,” “stiffness,” “flatness,” “porosity,” etc. used throughout the claims are relative terms which render the claim indefinite. Each of these terms is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For example, what is required for a material to be considered to have the property of wettability enhancement? and as compared to what is a material “enhanced”?

Furthermore, the language in claim 1 “being of a material imparting a particular physical property the stamp member” is unclear with respect to what limitation this language provides. In particular, all materials have physical properties to some extent, so it is not clear what is required by this limitation.

With respect to claims 4 and 5, each of the claims is confusing in scope and meaning and appears to be modifying rather than further limiting the parent claim. In particular, claims 2 and 3 recite that the region is a single region, but claims 4 and 5 appear to reciting that the subsurface region has another region. To correct this problem, it is suggested that claims 2 and 3 be amended to remove the language regarding the single region and then claims 4 and 5 be amended to include language such as the following: --...wherein said at least one subsurface region comprises another region, said another region imparting the property of porosity to said stamp member and being positioned between...--

With respect to claim 7, the language in lines 6-8 is unclear in meaning and appears to be improperly reciting a method of manufacture step, thereby rendering the scope of the claim confusing and unclear. In particular, the claim is drawn to a microcontact printing stamp (which is assumed by the Examiner to be drawn to the finished stamp described in the specification). However, applicant then appears to recite patterning layers of the intermediate product during the formation of the final stamp. Therefore, it is not clear whether applicant is intending to claim the finished stamp as disclosed or something else. Additionally, the terms “the features,” “the positive relief embossed portions,” and “the final printing stamp” in lines 7-8 have no proper antecedent basis in the claim. Finally, it is not clear what is required to be considered “an electronic circuitry processable material” as recited in line 9.

Appropriate correction and/or clarification is required.

8. Claims 6 and 10 appear to contain the trademark/trade name(s) DuPont Sylgard siloxane 184 and 186. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a

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trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the material of the stamping layers and, accordingly, the identification/description is indefinite.

Appropriate correction and/or clarification is required.

In an effort to advance prosecution of the application, the Examiner has interpreted the scope of the claims as best she can and the following rejection is deemed appropriate:

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Maracas et al. (US 5,937,758). Maracas et al. teach an elastomeric stamp member 100 for microcontact printing having a surface region (either region 104 or 105) of a material (i.e., elastomer) imparting at least one of the properties of adhesion and wettability enhancement and at least one subsurface region (either region 102 or 101) of a material (either the

elastomer of region **101** or the semi-rigid material of **102**) or imparting a particular physical property to the stamp member. See Figures 1-2 and columns 2-3 in particular.

Note that the claim language of claim 1 is so broad that the Maracas et al. reference can be read on the claim in multiple ways--i.e., the surface region being **104** with the subsurface region being **102** OR the surface region being **105** and the subsurface region being underlying region **101**. Furthermore, the claim language does not require the two regions to be of different materials and any material will provide physical properties such as stiffness, wettability, porosity, etc. to some extent. Since the stamp member material of Maracas et al. is an elastomer as recited by applicant in the claims, it would inherently provide the same physical properties as recited.

With respect to claim 2, note either the subsurface **102** or **101** provide the property of stiffness to the stamp member, at least to some extent. For example, the fact that the material in the region **101** is solid and continuous (as opposed to the region of **105** with the recesses **107**) would inherently provide the stamp with a stiffness.

With respect to claim 3, again note the subsurface region **101** is made of elastomer, which is broadly capable of imparting the property of wettability enhancement to the stamp member.

With respect to claim 7, Maracas et al. teach a microcontact printing stamp comprising a body **102** having a layer imparting a bulk stiffness and



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flatness physical property on which there is a stamping pattern supporting surface, and a stamping pattern layer 104 on the stamping pattern supporting surface of the body and being of a material (i.e., elastomer) capable of being “electronic circuitry processable material” and having at least one of the physical properties of adhesion enhancement and wettability enhancement.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maracas et al. (US 5,937,758). Maracas et al. teach an elastomeric microcontact printing stamp as recited, with the possible exception of the particular materials used for the various regions or layers. However, the selection of the optimum material for regions or layers of the stamp could easily be determined through obvious routine experimentation. Therefore, there is no unobviousness in using any selected material, such as siloxane 184 and siloxane 186, for the regions or layers of the stamp of Maracas et al., as it would simply require the obvious selection of a known material based upon its known properties to provide a stamp member with appropriate physical properties to provide accurate printing.

14. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) set forth in the preamble of claim 1 in view of Fujimura (US 4,306,498). AAPA teaches an elastomeric microcontact printing stamp for use in transferring electronic circuitry patterns is well known in the art. Although AAPA does not teach the particular details of the stamp member's various regions or layers, Fujimura teaches an elastomeric stamp member comprising three layers **8**, **9**, **2** including a surface region **2** of a material imparting at least one of the properties of adhesion and wettability enhancement, a subsurface layer **8** imparting a particular physical property (i.e., stiffness or wettability enhancement) to the stamp member, and another

subsurface layer 9 imparting the property of porosity to the stamp member and being located between the surface layer and subsurface layer. Again note that each of the materials for the three layers of Fujimura would inherently have material properties such as porosity, wettability, stiffness, etc. See Figure 3 and column 5 in particular. In view of this teaching, it would have been obvious to construct the elastomeric stamp of AAPA with the three layers as taught by Fujimura to provide a stamp member having layers with appropriate physical properties to provide accurate printing.

With respect to claims 6 and 10, again note that the selection of the optimum material for regions or layers of the stamp could easily be determined through obvious routine experimentation. Therefore, there is no unobviousness in using any selected material, such as siloxane 184 and siloxane 186, for the regions or layers of the stamp of AAPA in view of Fujimura, as it would simply require the obvious selection of a known material based upon its known properties to provide a stamp member with appropriate physical properties to provide accurate printing.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wada (JP 55-32663) and Bruno et al. (US 2001/0013294 A1) each teach a printing stamp having obvious similarities to the claimed subject matter.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Leslie J. Evanisko** whose telephone number is **(703) 308-0786**. The examiner can normally be reached on M-Th 7:30 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (703) 305-6619. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*Leslie J. Evanisko*  
Leslie J. Evanisko  
Primary Examiner  
Art Unit 2854

*lje*  
*lje*  
July 24, 2003